

# (12) UK Patent Application (19) GB (11) 2 177 981 A

(43) Application published 4 Feb 1987

(21) Application No 8518854

(22) Date of filing 25 Jul 1985

(71) Applicant  
Colin Leslie Hearl Wood,  
May Cottage, St. John's Road, Bashley, New Milton,  
Hampshire

(72) Inventor  
Colin Leslie Hearl Wood

(74) Agent and/or Address for Service  
D. Young & Co., 10 Staple Inn, London WC1V 7RD

(51) INTCL<sup>4</sup>  
B60G 11/22

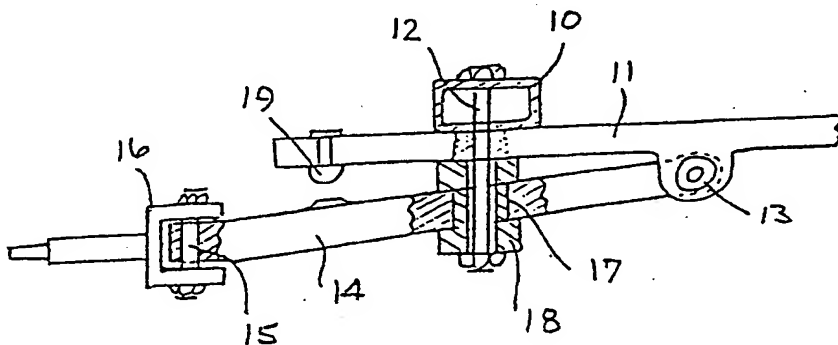
(52) Domestic classification (Edition I):  
B7D 2A2C 2A5E2 SC  
U1S 1821 B7D

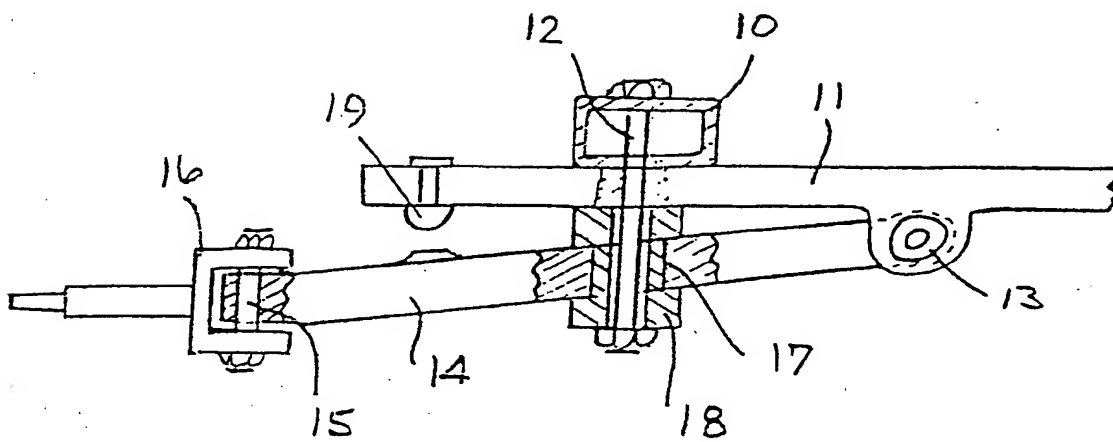
(56) Documents cited  
GB 1342084 GB 0930087  
GB 1096644 GB 0424723

(58) Field of search  
B7D  
Selected US specifications from IPC sub-class B60G

## (54) Vehicle wheel suspension

(57) A vehicle wheel suspension particularly for a battery powered vehicle for disabled persons comprises an arm 14 pivotally connected at one end to a chassis or frame 11 by a rubber bush 13 and provided at its other end with a wheel mounting 16. Between the ends of the arm 14 is provided a hole 17 through which extends a grommet-like member 18 formed of an elastomeric material which is placed in compression by a bolt 12.





## SPECIFICATION

### Vehicle wheel suspension

5 This invention relates to a vehicle wheel suspension and particularly, but not exclusively, to a wheel suspension of a battery powered electric vehicle for use by disabled persons.

According to the present invention there is provided a vehicle wheel suspension including an arm pivotally connected to the chassis or to a frame part of the chassis of the vehicle, said arm being provided at its free end with means for mounting a wheel and said arm being connected between its ends to the chassis by a resilient member formed of an elastomeric material which extends through the arm.

Preferably the resilient member consists of a rubber grommet or the like.

20 An embodiment of the invention will now be described, by way of an example, with reference to the accompanying drawing, in which the single Figure is a front elevation, partly in section, of a wheel suspension according to the present invention. The drawing shows a chassis member 10 to which is secured to a subframe 11 by means of a bolt 12. Pivotally connected to the sub-frame 11 by means of a bolt and a rubber bush 13 is a suspension arm 14 which at its free end is provided a king pin 15 of a wheel mounting 16. Between its ends, the arm 14 is provided with a hole 17 through which extends a grommet-like member 18 formed of a suitable resilient material, such as an elastomeric material which may comprise a natural or synthetic rubber.

The bolt 12 extends through the resilient member 18 and the member 18 is therefore placed in compression.

It will be appreciated that the member 18 dampens the movement of the arm 14. The damping rate of the member 18 can be varied by varying the depth of the parts of the member 18 which extend above and below the arm 14.

The sub-frame 11 is provided with a stop member 19 also formed of an elastomeric material. It will be appreciated that due to the member 18 and the bush 13, the arm 14 is isolated from the metal sub-frame 11 by elastomeric material.

By having elastomeric material on each side of the suspension arm 14 ensures that upward and downward movement of the arm is resisted by compression of the elastomeric material.

## CLAIMS

55 1. A vehicle wheel suspension comprising an arm pivotally connected to the chassis or to a frame part of the chassis of a vehicle, said arm being provided at its free end with means for mounting a wheel and said arm being connected between its ends to the chassis by a resilient member formed of an elastomeric material which extends through the arm.

2. A vehicle wheel suspension as claimed in claim 1, in which the resilient member consists of

a rubber grommet or the like.

3. A vehicle wheel suspension as claimed in claim 1 or claim 2, in which a bolt extends through the resilient member and is engaged with said chassis or frame and places the resilient member in compression.

4. A vehicle wheel suspension as claimed in any preceding claim, in which the arm is pivotally connected to said chassis or frame via a rubber bush.

5. A vehicle wheel suspension substantially as hereinbefore described with reference to and as illustrated in the accompanying drawing.

Printed for Her Majesty's Stationery Office by  
Croydon Printing Company (UK) Ltd, 12/86, D8817356.  
Published by The Patent Office, 25 Southampton Buildings, London, WC2A 1AY,  
from which copies may be obtained.